



REC'D 17 DEC 2003

WIPO

PCT

PCT/IB 03/05676

01.12.03



INVESTOR IN PEOPLE

The Patent Office
Concept House
Cardiff Road
Newport
South Wales
NP10 8QQ

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

I also certify that the application is now proceeding in the name as identified herein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

Signed

Dated 17 November 2003

**PRIORITY
DOCUMENT**

SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)



INVESTOR IN PEOPLE

~~GB0125128.9~~ GB 0301591.1

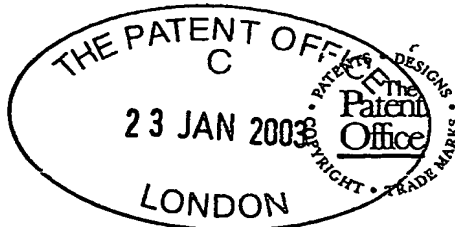
By virtue of a direction under Section 32 of the patents Act 1977, the application is proceeding in the name of,

GDX AUTOMOTIVE REHBURG GMBH & CO. KG,
Incorporated in the Federal Republic of Germany,
Am Buchholz 4,
31547 Rehburg
Loccum,

[ADP No. 08619603001]

Patents Form 1/77

Patents Act 1977
(Rule 16)



24JAN03 E779539-1 002955
P01/7700 0.00-0301597.1

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

1. Your reference

1/CW/PP32673GB

23 JAN 2003

2. Patent application number

(The Patent Office will fill in this part)

0301597.1

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Handwritten: Henniges Elastomer- und Kautschuktechnik GmbH, P.O. Box 537012, Am Buchholz 17, 95853 Rehburg, a Co. KG, Sacramento, California 95853-7012 U.S.A.

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

California, U.S.A. Germany

4. Title of the invention

SEALING STRIP ARRANGEMENTS AND METHODS OF MAKING THEM

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

MATHISEN & MACARA
The Coach House
6-8 Swakeleys Road
Ickenham, Uxbridge
UB10 8BZ

Patents ADP number (if you know it)

1594001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

U.K.

0228165.5

3rd December 2002

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form

Description 6

Claim(s) 4

Abstract 1

Drawing(s) 4 + 2 

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination (*Patents Form 10/77*)

Any other documents
(please specify)

11. I/We request the grant of a patent on the basis of this application.

Signature

Date

MATHISEN & MACARA 23rd January 2003

12. Name and daytime telephone number of person to contact in the United Kingdom

MR D.M. FOSTER (01895 678331)

Warning

After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

Notes

- If you need help to fill in this form or you have any questions, please contact the Patent Office on 08459 500505.*
- Write your answers in capital letters using black ink or you may type them.*
- If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.*
- If you have answered 'Yes' Patents Form 7/77 will need to be filed.*
- Once you have filled in the form you must remember to sign and date it.*
- For details of the fee and ways to pay please contact the Patent Office.*

D1:PP32673GB:030123

UNITED KINGDOM PATENT APPLICATION

APPLICANTS: GENCORP PROPERTY INC.

CASE CODE: "Bonded Seal" (GDX-XXXX)

FORMAL TITLE: SEALING STRIP ARRANGEMENTS
AND METHODS OF MAKING THEM

APPLICATION NO:

FILED:

PRIORITY CLAIMED: United Kingdom, No. 0228165.5, filed
3rd December 2002

MATHISEN & MACARA
6 - 8 Swakeleys Road,
Ickenham, Uxbridge,
England, UB10 8BZ

Agents for the Applicants

SEALING STRIP ARRANGEMENTS AND METHODS OF MAKING THEM

The invention relates to sealing strip arrangements and methods of making them. Strip arrangements embodying the invention, to be described in more detail below by way of example only, can be used in motor vehicle body construction, such as for sealing purposes relating to vehicle windows and for similar applications in vehicles.

According to the invention, there is provided a sealing strip arrangement for providing a seal between a panel-shaped member and at least a partial surround thereof, comprising a sealing strip secured to a surface of the panel-shaped member by bonding material, the sealing strip having a sealing portion extending therefrom for sealing against the surround.

According to the invention, there is further provided a method of forming a seal between an edge of a panel-shaped member and at least a partial surround thereof, comprising the steps of placing a longitudinally extending sealing strip on a surface of the panel-shaped member and injecting bonding material into an open-mouthed longitudinally extending channel formed in a surface of the sealing strip so that the bonding material secures that surface to the said surface of the panel-shaped member and an extending sealing part of the sealing strip is positioned for sealing against the said surround.

Sealing strip arrangements embodying the invention, and methods according to the invention of making them, will now be described, by way of example only, with reference to the accompanying diagrammatic drawings in which:

Figure 1 is a side view of a motor vehicle body incorporating one or more of the strips;

Figure 2 is a cross-section through an edge of the windscreen opening of the vehicle body shown in Figure 1, showing one of the strip arrangements;

Figure 3 is a cross-section on the line III-III of Figure 1; and

Figure 4 corresponds to Figure 3 but shows a modification.

Figure 2 shows the windscreen glass 10 of the vehicle body shown in Figure 1, and the adjacent body panel 12 defining part of the windscreen opening. The windscreen glass 10 is secured in position, to the body panel 12, by a bead of suitable adhesive 14.

In order to provide a seal between the edge 10A of the windscreen glass 10 and the body panel 12, a sealing strip shown generally at 16 is provided. The strip 16 is made of suitable resilient and flexible material 18, such as plastics, rubber or thermoplastic elastomer material. It is extruded or moulded to have a body portion 18A and a sealing

lip 18B and to define a hollow channel 18C with a re-entrant mouth 18D.

The strip 16 is secured to the windscreen glass 10 by means of suitable bonding material 20 such as polyurethane material. The material 20 fills the channel 18C and adheres to the material of the strip 16 and extends through the mouth 18D to adhere firmly to the surface of the windscreen glass 10.

During manufacture, the strip 16 is mounted in position on the outside surface of the windscreen glass 10. Polyurethane bonding material 20 is then injected (or otherwise placed) into the channel 18C from one end of the strip 16 so as to fill the channel and the mouth 18D and to adhere to the strip 16 and to the windscreen glass 10 and thus to hold the strip 16 firmly in position as the bonding material solidifies.

The surface of the windscreen glass 10 may be curved, and thus the strip 16 may correspondingly curved.

As shown in Figure 2, the sealing strip 16 may also include an external decorative part 22 such as made of metal or other material presenting bright external finish. The decorative part 22 may be clipped into position, with its distal edges extending into recesses in the strip 16, as illustrated.

In a case where the surface of the windscreen glass 10 is slightly curved, the strip 16 may

be held in a matchingly curved configuration during the manufacturing process, such as by a suitable jig, and the decorative part 22 is correspondingly curved and secured onto the sealing strip 16. The sealing strip 16, with the decorative part 22 secured to it, is thus held in the required curved configuration and can be delivered to the vehicle manufacturer ready for mounting on the windscreen glass 10 using the polyurethane or other bonding material 20 in the manner described.

In a modification, the strip 16 can be held in straight configuration with the decorative part 22 clippingly secured to it. It is then delivered to the vehicle manufacturer in this form and can be gently bent to match the surface of the window glass 10. It is then firmly secured to the windscreen glass 10 by means of the polyurethane bonding material in the manner explained.

Figure 3 shows the window glass 30 of the rear quarter light window of the vehicle shown in Figure 1. In this case, the window glass 30 is held in position within the rigid window frame 32 carried by the upper part of the rear door of the vehicle by means of a fixture 34.

The fixture 34 comprises a head 36 integral with a screw-threaded part 38 which extends through a hole 40 in the window frame 32 and threadedly engages a hollow bore 42 in a mounting block 44 secured to the inside surface of the window glass 30. The mounting block 44 may be made of any suitable material and is securely attached, as by adhesive, to the window glass 30. The underside of the head 36 of the fixture 34 bears against the inside surface of the window frame 32 and thus secures the window glass in position. A

bead of sealing and/or adhesive material 46 may also be present for providing additional sealing and securing action between the mounting block 44 and the window frame 32.

In order to provide a seal between the edge of the window glass 30 and the window frame 32, a sealing strip 48 is provided, which can be extruded or moulded from suitable resilient flexible material, such as plastics, rubber or thermoplastic elastomer. The strip 48 is formed to provide an open channel 48A having a mouth 48B.

In use, the strip 48 is placed along the edge of the window glass 30, and suitable bonding material 49, preferably polyurethane material, is injected (or otherwise placed) into the channel 48A from one end of the strip 48, so as to fill the channel and extend through the mouth 48B, adhering to the material of the strip 48 and also to the surface of the window glass 30, so as to hold the strip firmly in position.

This process may be carried out before or after the window glass 30 is fixed to the window frame by the fixture 34.

Figure 4 shows a modification to the arrangement of Figure 3, and parts in Figure 4 corresponding to those in Figure 3 are similarly referenced.

In the arrangement of Figure 4, however, a hole 50 is provided (shown dotted) which extends through the window glass 30 and the corresponding region of the mounting block

44. The sealing strip 48 is placed over the edge of the window glass 30, so that the hole 50 opens into the mouth 48B of the channel 48A. The polyurethane or other bonding material 49 can thus be injected into the channel 48A through the hole 50.

The windscreen 10 or the quarter light 30 can be made of polycarbonate or similar material instead of glass.

However, although the foregoing description has related to the securing of a sealing strip to the translucent or transparent member of a window opening, it could instead relate to the securing of a sealing strip to some other panel-shaped member not for a window opening – such as, for example, a closure member for an opening.

CLAIMS

1. A sealing strip arrangement for providing a seal between a panel-shaped member and at least a partial surround thereof, comprising a sealing strip secured to a surface of the panel-shaped member by bonding material, the sealing strip having a sealing portion extending therefrom for sealing against the surround.
2. An arrangement according to claim 1, in which the sealing strip comprises a body part defining a surface in which is formed a channel having a mouth open to that surface, the bonding material being located in the channel and adhering to the surface of the panel-shaped member through the said mouth.
3. An arrangement according to claim 2, in which a surface of the body portion opposite to the surface in which is formed the channel carries a decorative part.
4. An arrangement according to claim 2 or 3, in which the bonding material is placed into the channel from a longitudinal end thereof.
5. An arrangement according to any one of claims 2 or 3, in which the bonding material is placed into the channel through an aperture in the panel-shaped member.
6. An arrangement according to any preceding claim, in which the bonding material

comprises polyurethane material.

7. An arrangement according to any preceding claim, in which the panel-shaped member is made of transparent or translucent material.
8. An arrangement according to claim 7, in which the surround is part of the frame of a window opening.
9. A method of forming a seal between an edge of a panel-shaped member and at least a partial surround thereof, comprising the steps of placing a longitudinally extending sealing strip on a surface of the panel-shaped member and injecting bonding material into an open-mouthed longitudinally extending channel formed in a surface of the sealing strip so that the bonding material secures that surface to the said surface of the panel-shaped member and an extending sealing part of the sealing strip is positioned for sealing against the said surround.
10. A method according to claim 9, in which the bonding material is placed into the channel from a longitudinal end thereof.
11. A method according to claim 10, in which the bonding material is placed into the channel through an aperture in the panel-shaped member.

12. A method according to any one of claims 9 to 11, in which the bonding material is polyurethane material.

13. A method according to any one of claims 9 to 12, in which the surround is part of the frame of a window opening and a panel-shaped member is a transparent or translucent window member.

14. A sealing arrangement, substantially as described with reference to Figure 2 of the accompanying drawings.

15. A sealing arrangement, substantially as described with reference to Figure 3 of the accompanying drawings.

16. A sealing arrangement, substantially as described with reference to Figure 4 of the accompanying drawings.

17. A method of forming a seal between a window glass and a surround of a window opening, substantially as described with reference to Figure 2 of the accompanying drawings.

18. A method of forming a seal between a window glass and a surround of a window opening, substantially as described with reference to Figure 3 of the accompanying

drawings.

19. A method of forming a seal between a window glass and a surround of a window opening, substantially as described with reference to Figure 4 of the accompanying drawings.

ABSTRACT (Figure 2)

A windscreen glass (10) is secured in position adjacent a body panel (12) of a windscreen opening in a motor vehicle body by a bead of suitable adhesive (14). In order to provide a seal between the edge (10A) of the window glass (10) and the body panel (12), a strip (16) made of suitable resilient flexible material is secured to the surface of the window glass (10) by means of bonding material (20), preferably polyurethane, which is injected or otherwise placed into an open-mouthed channel (18C) in the strip (16) and thus adheres both to the material of the strip (16) and to the adjacent surface of the window glass (10). The strip (16) has a flexible sealing lip (18B). The polyurethane material (20) may be injected from a longitudinal end of the channel (18C). In a modification, the polyurethane material (20) may be injected through an opening through the window glass (10).

B

1/4

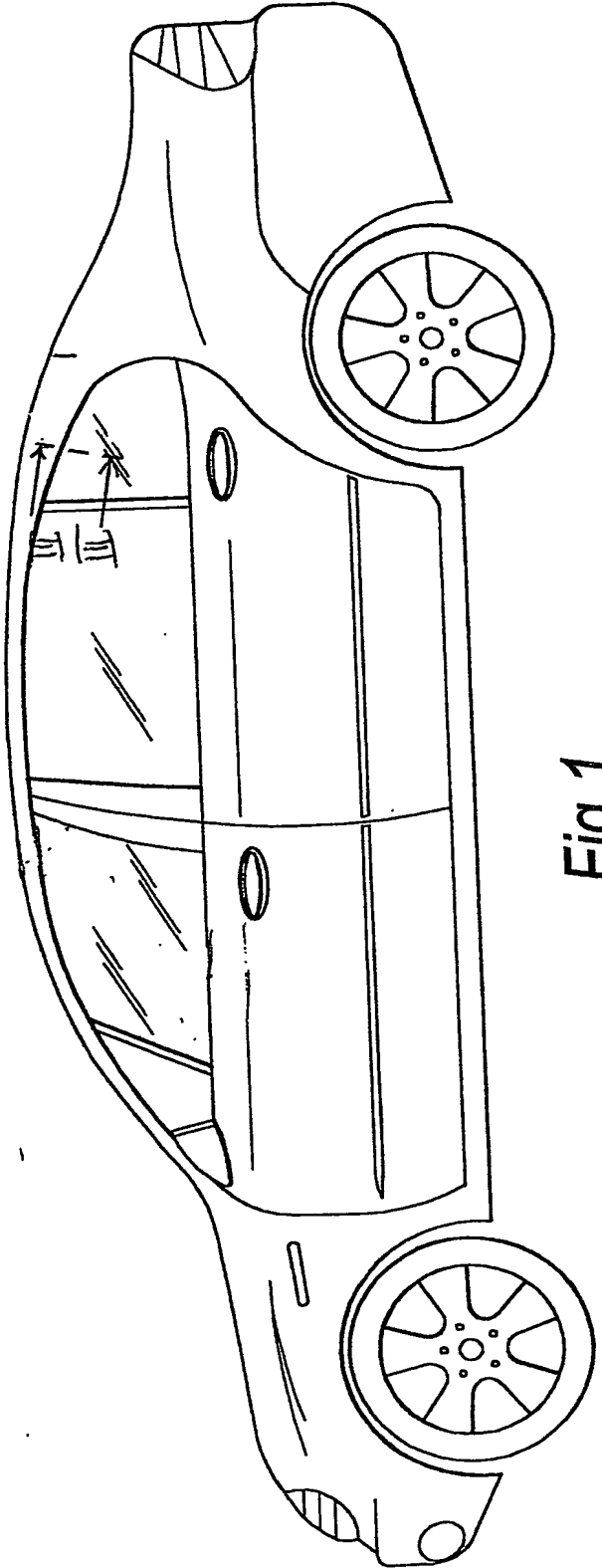


Fig.1

B

2/4

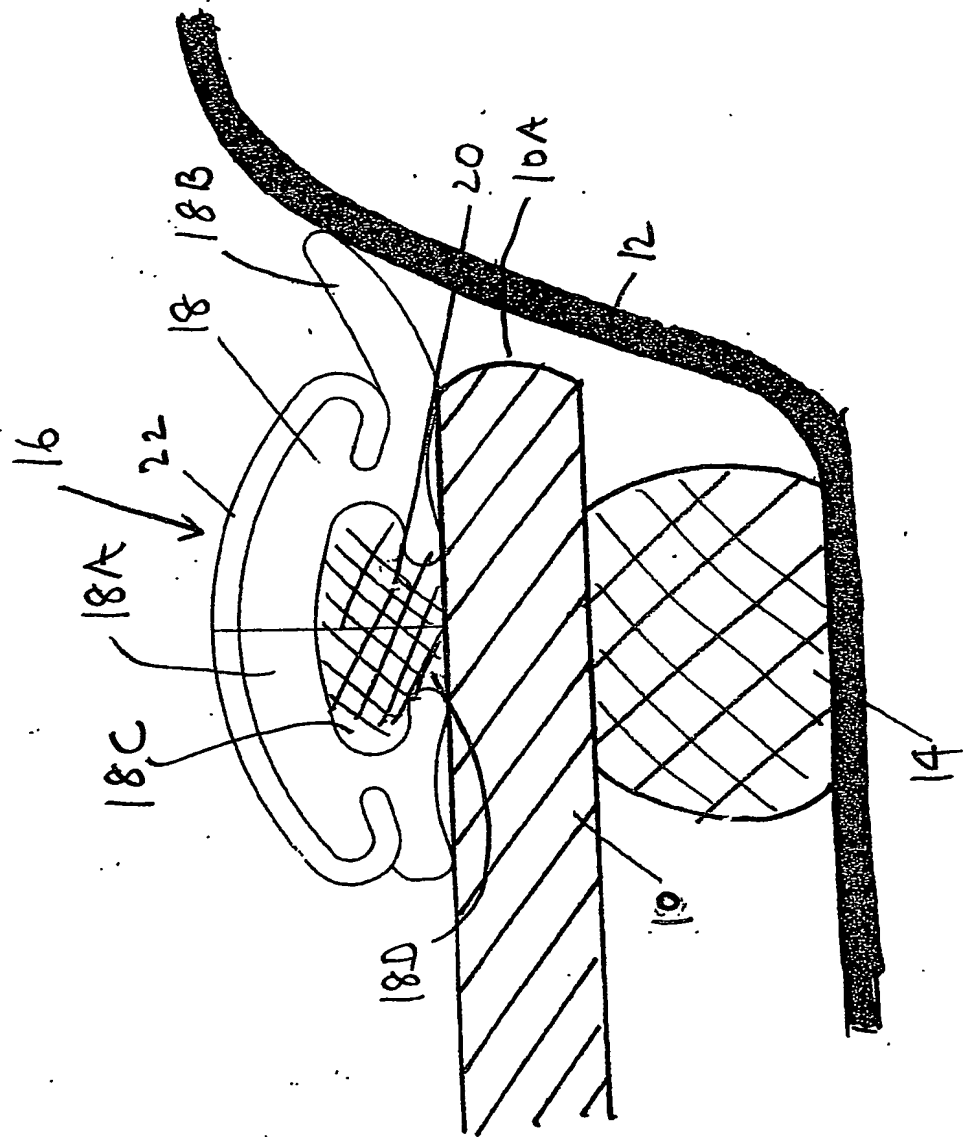


Fig. 2

3/4

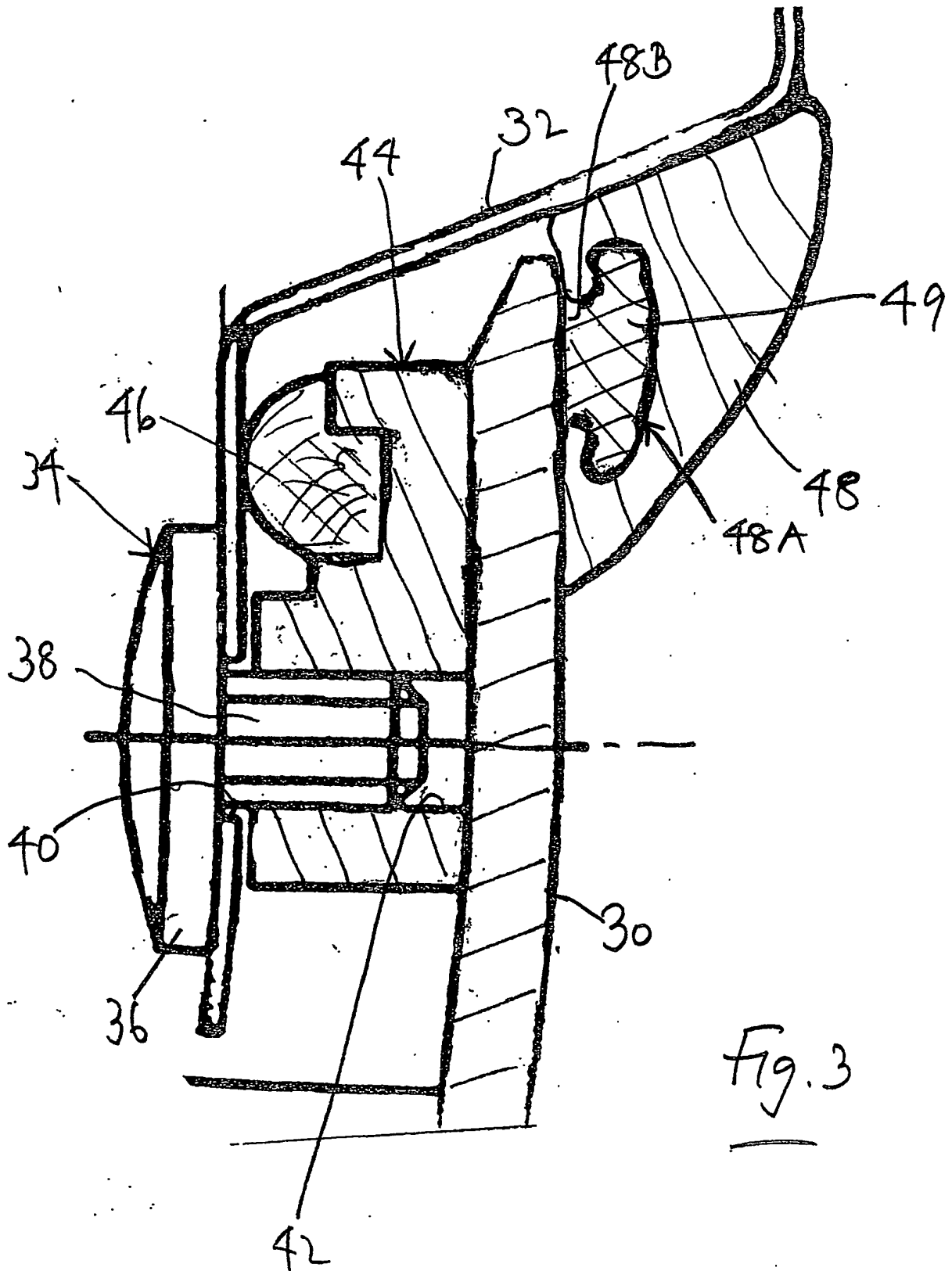


Fig. 3

4/4

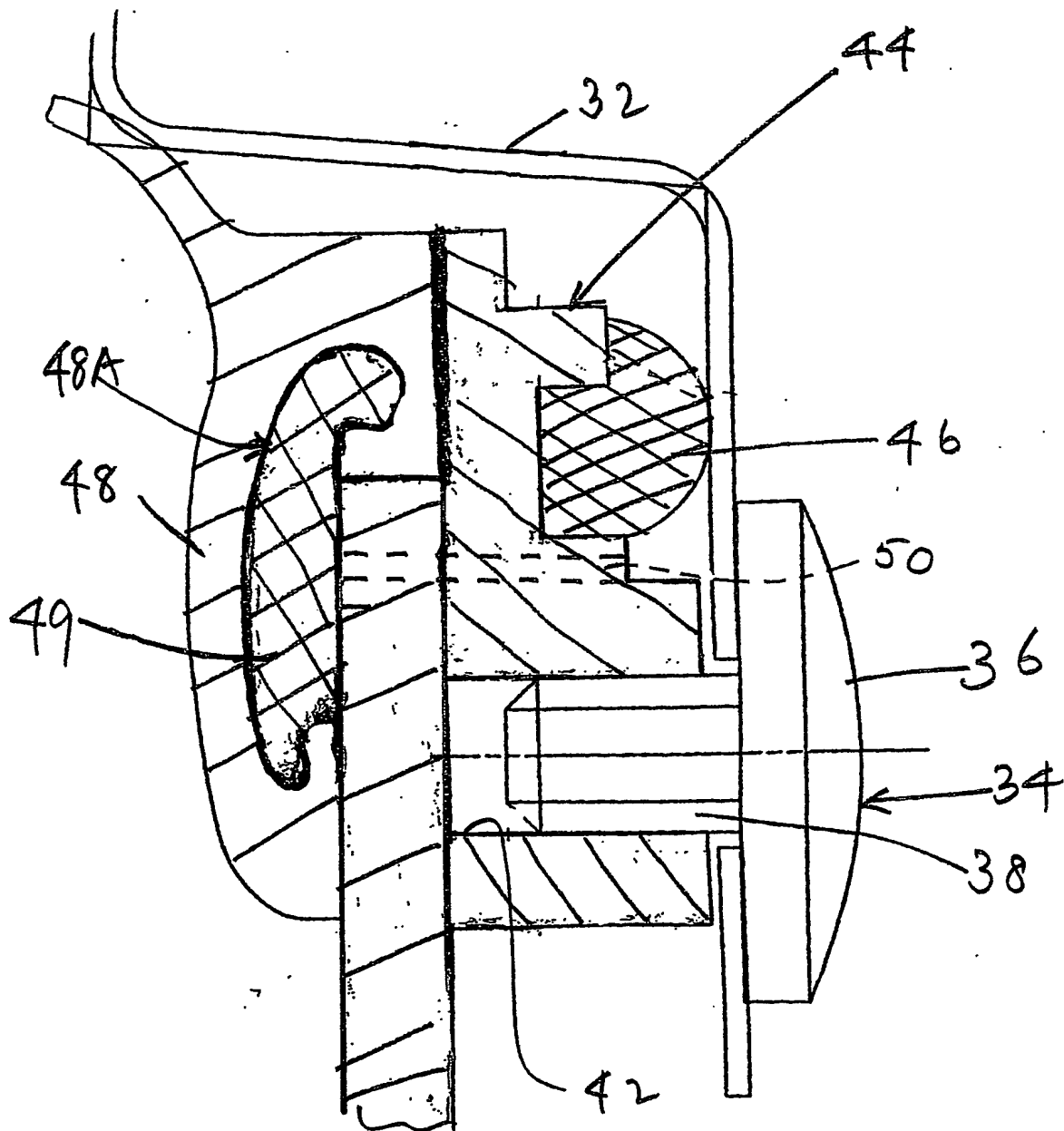


Fig. 4